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REPORT

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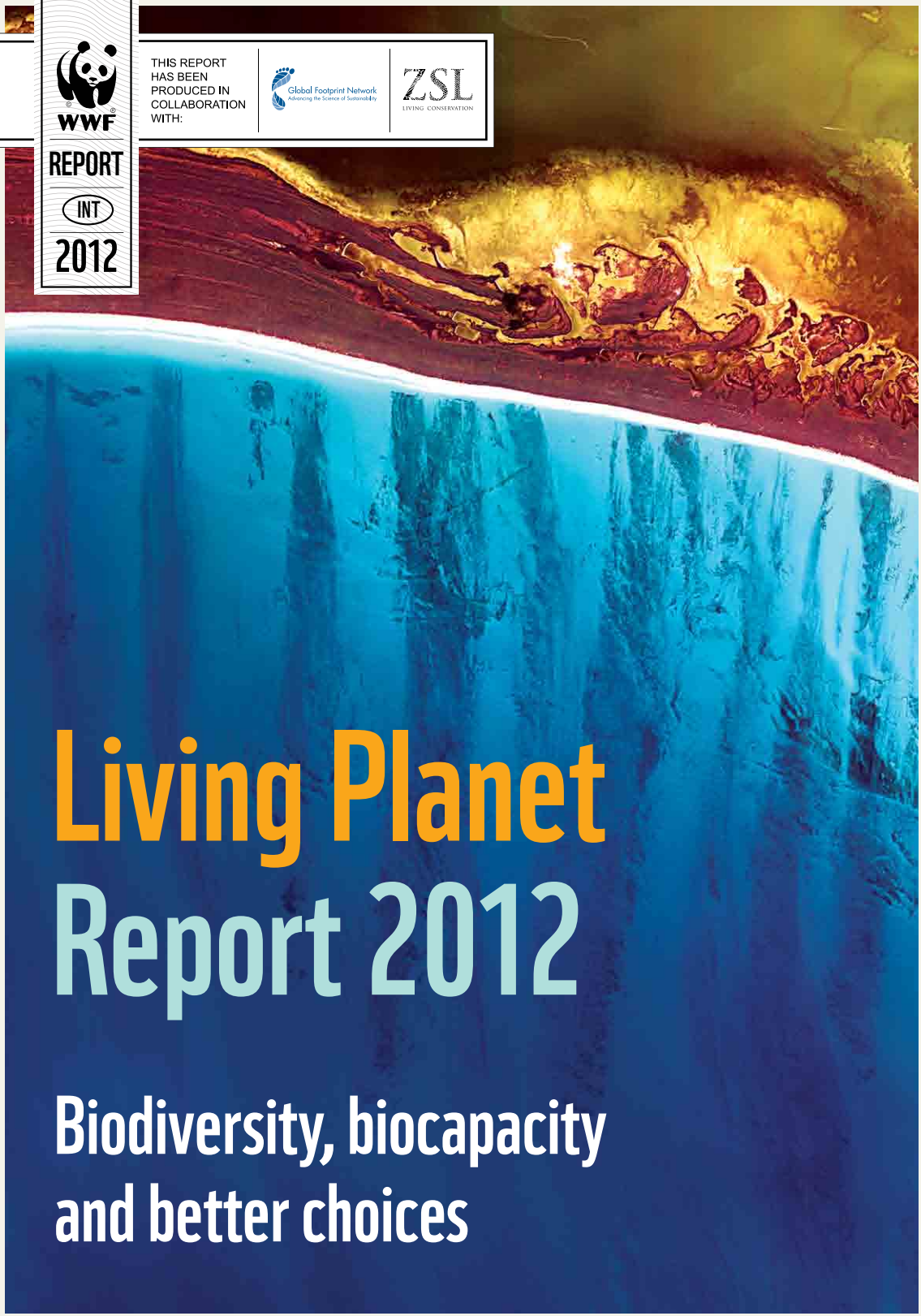
Global Footprint Network
Advancing the Science of Sustainability

ZSL
LIVING CONSERVATION

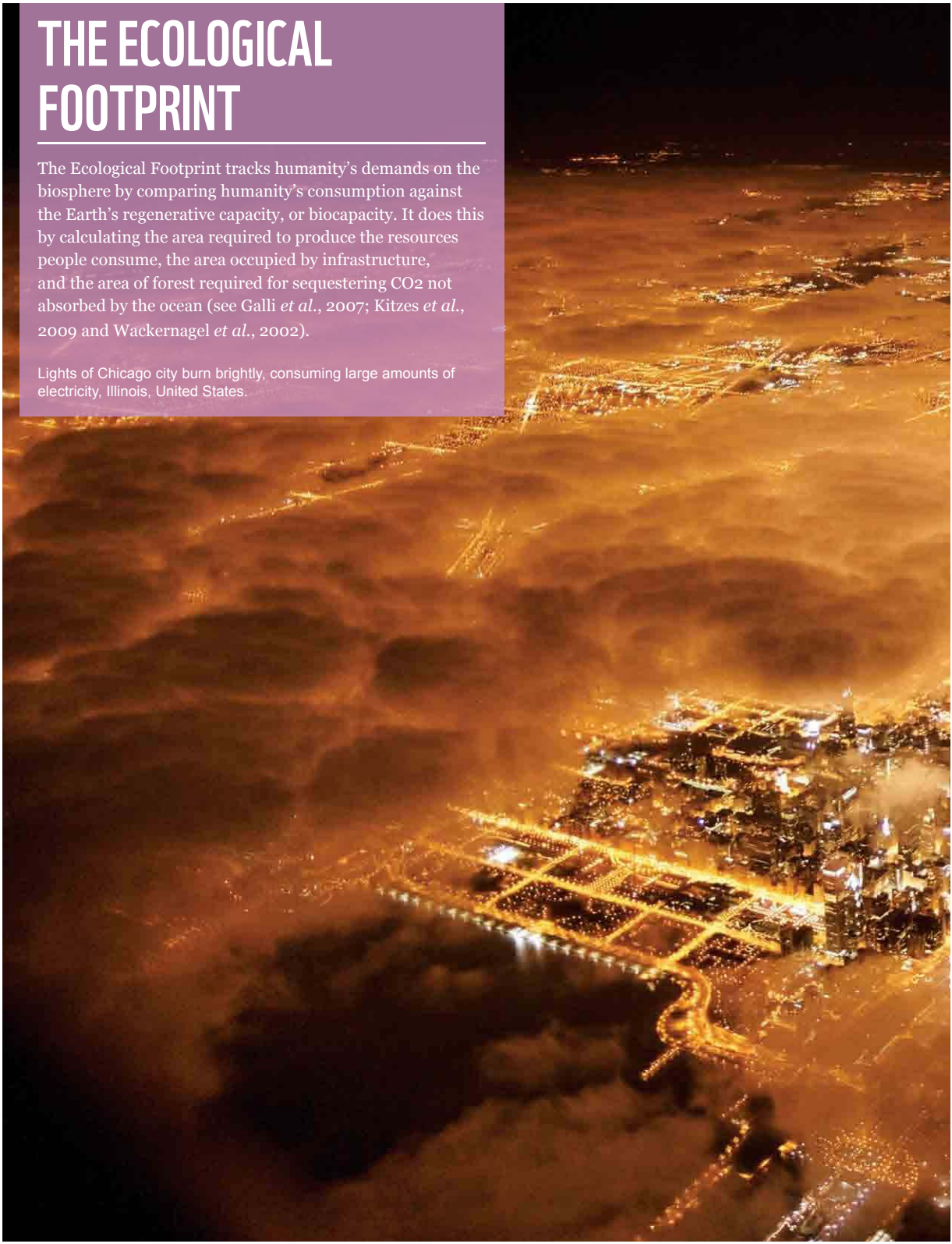


Living Planet Report 2012

Biodiversity, biocapacity and better choices

THE ECOLOGICAL FOOTPRINT

The Ecological Footprint tracks humanity's demands on the biosphere by comparing humanity's consumption against the Earth's regenerative capacity, or biocapacity. It does this by calculating the area required to produce the resources people consume, the area occupied by infrastructure, and the area of forest required for sequestering CO_2 not absorbed by the ocean (see Galli *et al.*, 2007; Kitzes *et al.*, 2009 and Wackernagel *et al.*, 2002).



Lights of Chicago city burn brightly, consuming large amounts of electricity, Illinois, United States.

MEASURING HUMAN DEMAND

National Footprint Accounts (NFAs) track resources for each individual country, which together make up the global Ecological Footprint. They include crops and fish for human food and other uses; timber; and grass and feed crops for livestock. CO_2 emissions are currently the only waste product tracked (Figure 21).

Biocapacity quantifies nature's capacity to produce renewable resources, provide land for built-up areas and provide waste absorption services such as carbon uptake. Biocapacity acts as an ecological benchmark against which the Ecological Footprint can be compared. The Ecological Footprint does not directly include water use; however this is intrinsic to biocapacity – as lack of water, or polluted water, has a direct impact on the availability and state of biocapacity. Both the Ecological Footprint and biocapacity are expressed in a common unit called a global hectare, where 1 gha represents a biologically productive hectare with world average productivity. In 2008, the Earth's total biocapacity was 12.0 billion gha, or 1.8 gha per person, while humanity's Ecological Footprint was 18.2 billion gha, or 2.7 gha per person. This discrepancy means it would take 1.5 years for the Earth to fully regenerate the renewable resources that people used in one year.

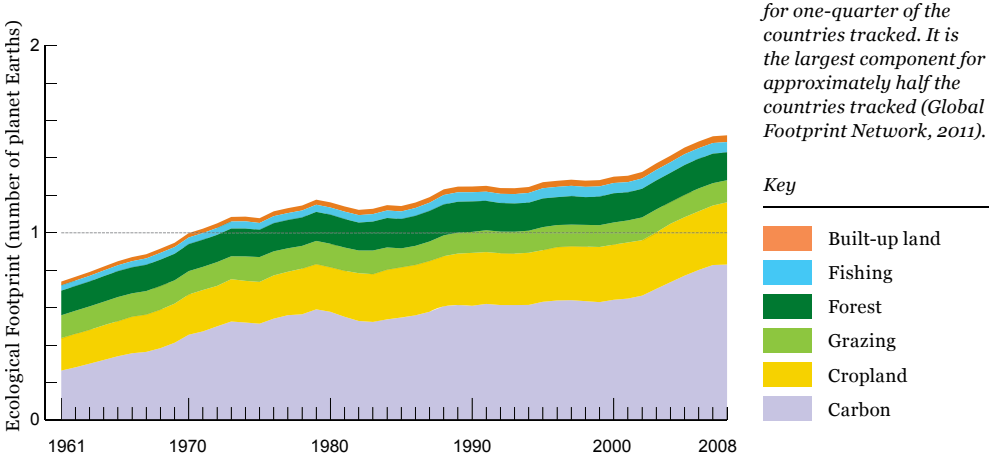


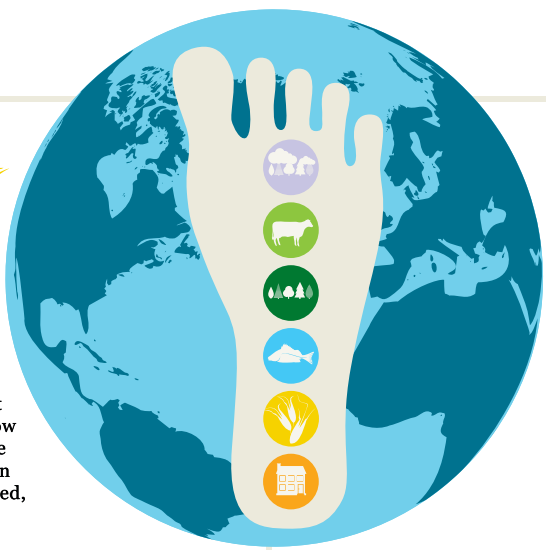
Figure 21: Global Ecological Footprint by component, 1961-2008
The largest component of the Ecological Footprint is the carbon footprint (55%). At a national level the carbon footprint represents more than half the Ecological Footprint for one-quarter of the countries tracked. It is the largest component for approximately half the countries tracked (Global Footprint Network, 2011).

Exploring the Ecological Footprint

Every human activity uses biologically productive land and/or fishing grounds. The Ecological Footprint is the sum of these areas, regardless of where they are located on the planet (Figure 22).

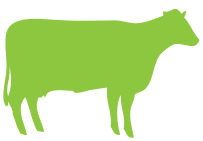
Carbon

Represents the amount of forest land that could sequester CO_2 emissions from the burning of fossil fuels, excluding the fraction absorbed by the oceans which leads to acidification.



Cropland

Represents the amount of cropland used to grow crops for food and fibre for human consumption as well as for animal feed, oil crops and rubber.



Grazing Land

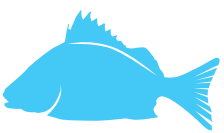
Represents the amount of grazing land used to raise livestock for meat, dairy, hide and wool products.

Forest

Represents the amount of forest required to supply timber products, pulp and fuel wood.

Built-up Land

Represents the amount of land covered by human infrastructure, including transportation, housing, industrial structures and reservoirs for hydropower.



Fishing Grounds

Calculated from the estimated primary production required to support the fish and seafood caught, based on catch data for marine and freshwater species.

Figure 22 : Exploring the Ecological Footprint

What does "ecological overshoot" mean?

1.5 YEARS
TO GENERATE THE RENEWABLE RESOURCES USED IN 2008

Humanity's annual demand on the natural world has exceeded what the Earth can renew in a year since the 1970s. This "ecological overshoot" has continued to grow over the years, reaching a 50 per cent deficit in 2008. This means that it takes 1.5 years for the Earth to regenerate the renewable resources that people use, and absorb the CO_2 waste they produce, in that same year.

How can this be possible when there is only one Earth? Just as it is possible to withdraw money from a bank account faster than to wait for the interest this money generates, renewable resources can be harvested faster than they can be re-grown. But just like overdrawing from a bank account, eventually the resource will be depleted. At present, people are often able to shift their sourcing when this happens; however at current consumption rates, these sources will eventually run out of resources too – and some ecosystems will collapse even before the resource is completely gone.

The consequences of excess greenhouse gases that cannot be absorbed by vegetation are already being seen, with rising levels of atmospheric CO_2 causing increased global temperatures, climate change and ocean acidification. These impacts in turn place additional stresses on biodiversity and ecosystems and the very resources on which people depend.

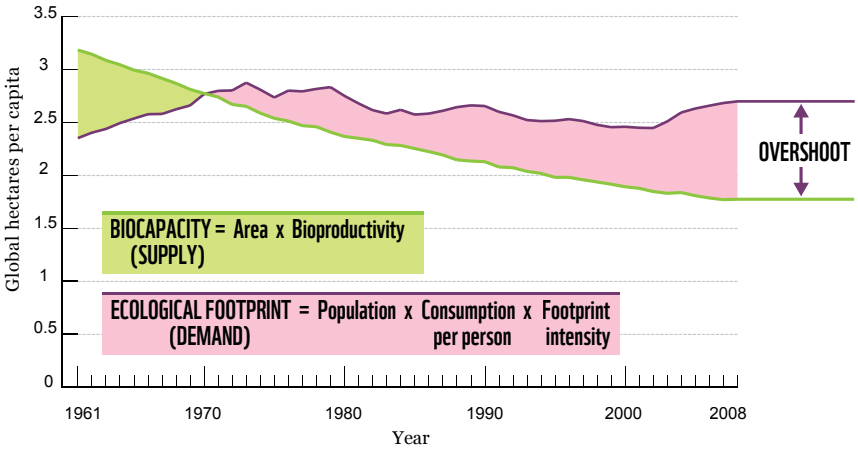


Figure 23: Trends in Ecological Footprint and biocapacity per person between 1961 and 2008
The decline in biocapacity per capita is primarily due to an increase in global population. More people have to share the Earth's resources. The increase in the Earth's productivity is not enough to compensate for the demands of this growing population (Global Footprint Network, 2011).

Biocapacity and Ecological Footprint trends

The Ecological Footprint is driven by consumer habits and the efficiency with which goods and services can be provided. The growing biocapacity deficit – defined as when a population uses more biocapacity than can be supplied and regenerated in a year – is driven by the combination of high consumption rates that are increasing more rapidly than improvements in efficiency (increasing people's footprint); and populations growing faster than the biosphere's capacity (driving down biocapacity per person).

Figure 24: Factors driving Ecological Footprint and biocapacity *(Global Footprint Network, 2011)*

Biocapacity factors

Bioproductive area: The area available of cropland, grazing land, fishing grounds and forests.

Bioproductivity per hectare: An area's productivity can vary each year and depends on factors such as ecosystem type, management and health, agricultural practices and weather. Productivity can be enhanced to achieve more biocapacity, however this often comes at the cost of a larger Ecological Footprint. For example, energy-intensive agriculture and heavy reliance on fertilizer may increase yields, but requires increased inputs and generates higher CO_2 emissions.

Ecological Footprint drivers

Population growth: The growing number of consumers is a strong driver behind the increasing global footprint. The human population is forecast to reach 7.8-10.9 billion people by 2050, with a medium estimate of just over 9.3 billion (UN, 2010). Population size also affects the biocapacity available to each person.

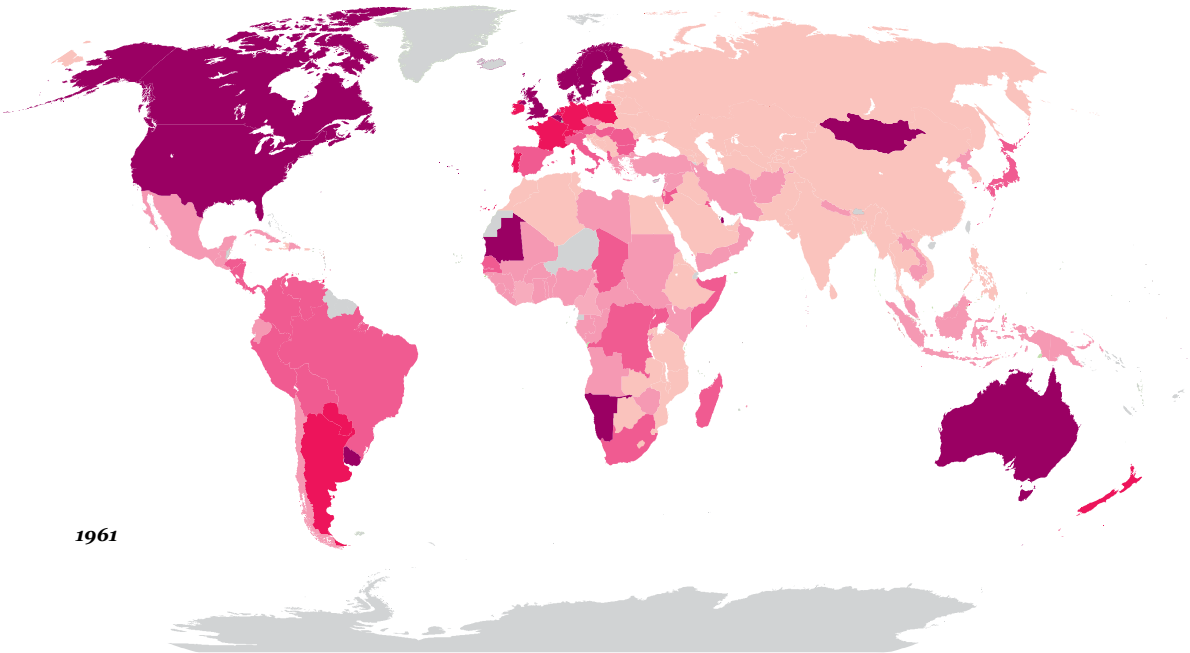
Consumption of goods and services per person: Different populations consume different quantities of goods and services, primarily based on their income level.

Footprint Intensity: The efficiency with which natural resources are converted into goods and services affects the size of the footprint of every product consumed. This varies between countries.

Mapping the Ecological Footprint

National trends for Ecological Footprint have changed over the years and generally increased. Figure 25 shows the average Ecological Footprint per person per country in 1961 (when National Footprint Accounts started) and again in 2008.

Figure 25: Changing Ecological Footprint per person
Global map of national Ecological Footprint per person in (a) 1961 and (b) 2008 (Global Footprint Network, 2011).



Different countries have different footprints

An individual's Ecological Footprint varies significantly depending on a number of factors, including their country of residence, the quantity of goods and services they consume, the resources used and the wastes generated to provide these goods and services. If all of humanity lived like an average Indonesian, for example, only two-thirds of the planet's biocapacity would be used; if everyone lived like an average Argentinean, humanity would demand more than half an additional planet; and if everyone lived like an average resident of the USA, a total of four Earths would be required to regenerate humanity's annual demand on nature.

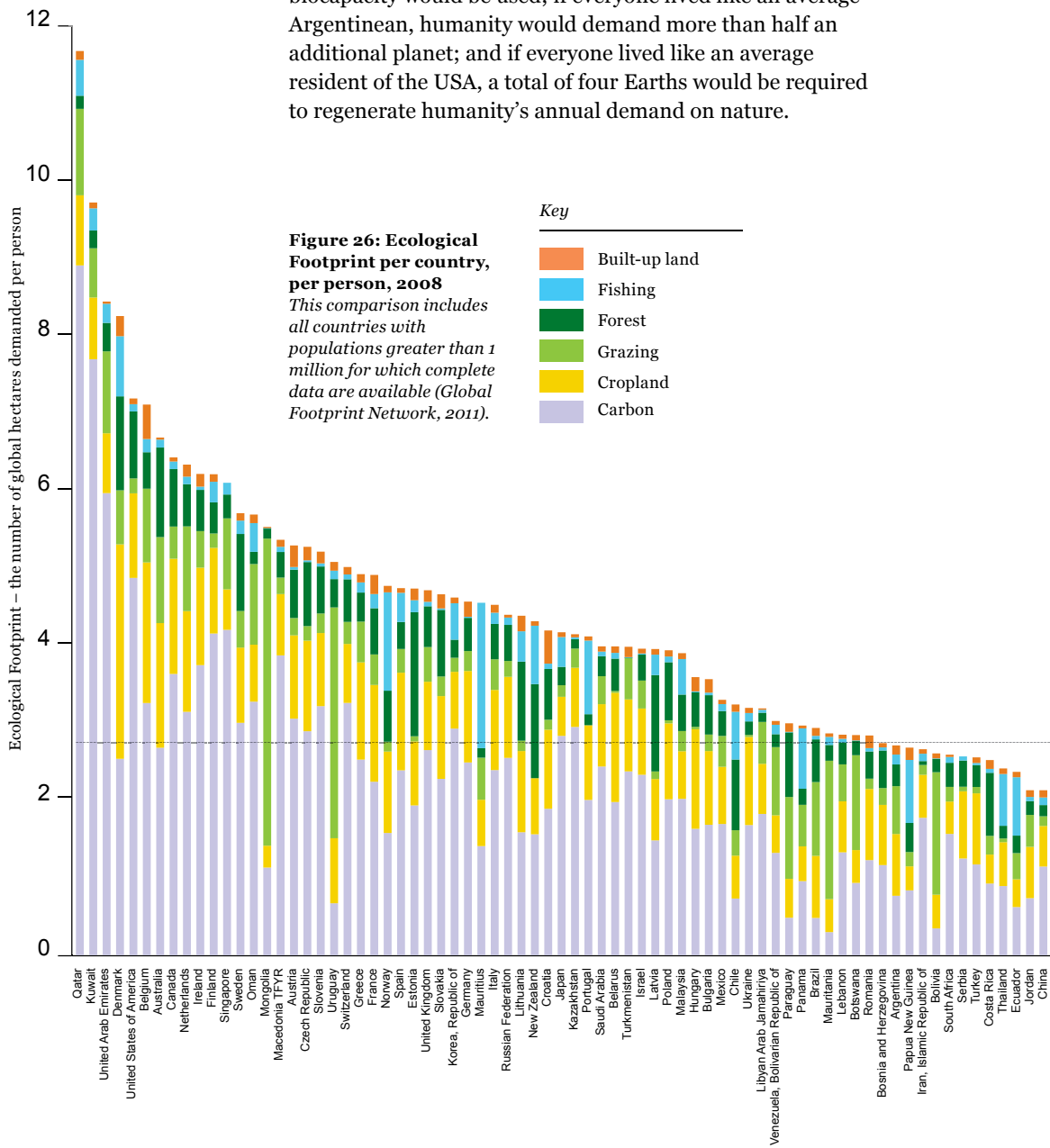


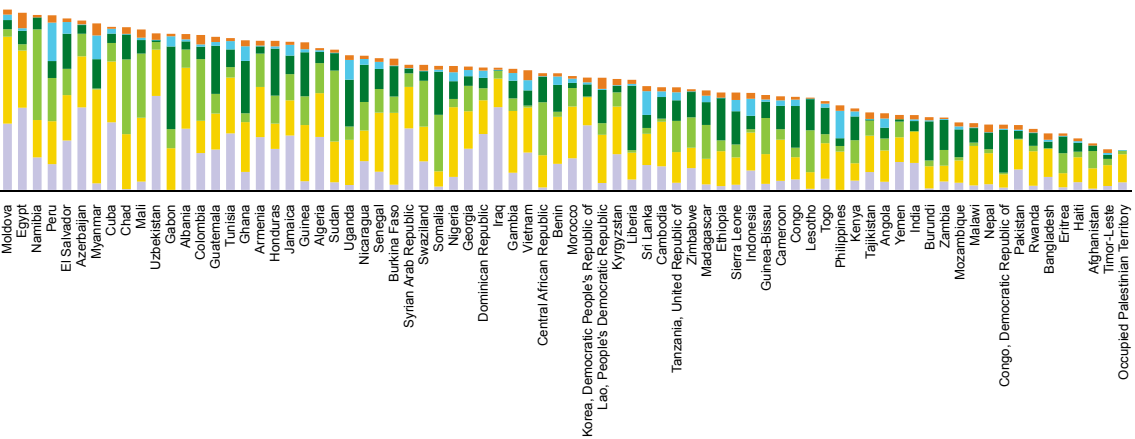
Figure 26: Ecological Footprint per country, per person, 2008
This comparison includes all countries with populations greater than 1 million for which complete data are available (Global Footprint Network, 2011).

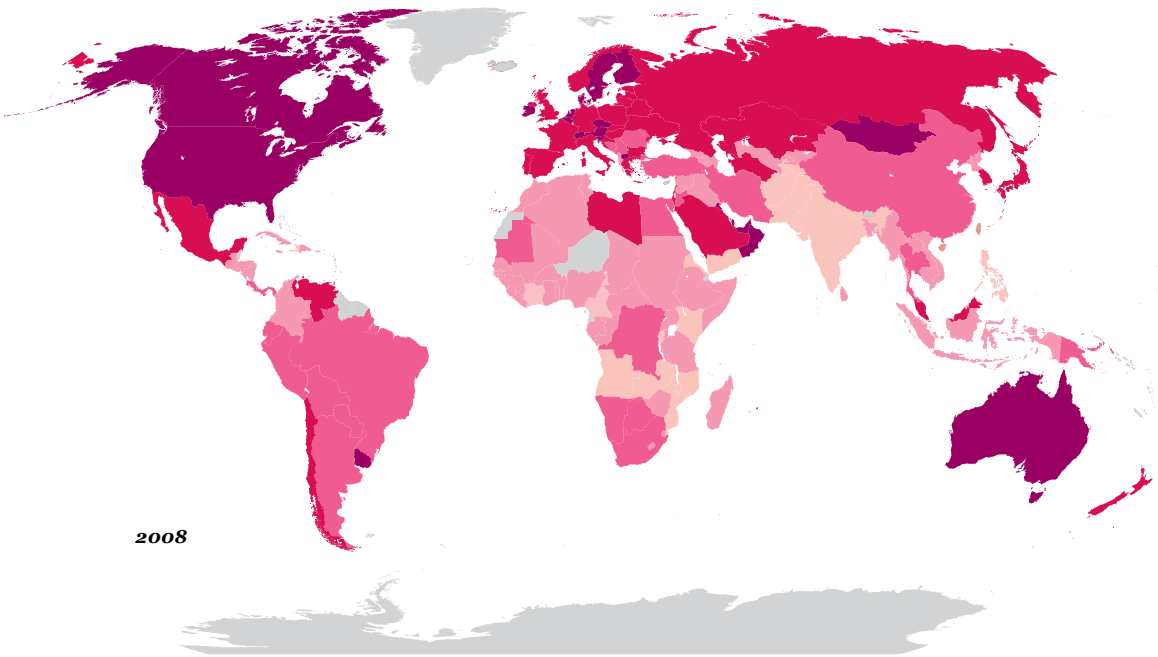
How much of a country's footprint is determined by individuals?

The size of a person's Ecological Footprint depends on development level and wealth, and in part on the choices individuals make on what they eat, what products they purchase and how they travel. But decisions undertaken by governments and businesses have a substantial influence on the Ecological Footprint too. For example, individuals generally have no direct control over the size of the built-up land footprint. The same is true for the way in which a country produces its electricity or the intensity of its agricultural production. This "inherited" part of the Ecological Footprint can be influenced through mechanisms such as political engagement, green technology and innovation, and other work toward large-scale social change. Governments and businesses therefore play an important role in reducing the Ecological Footprint of each person.

IF EVERYONE LIVED LIKE AN AVERAGE RESIDENT OF THE USA, A TOTAL OF FOUR EARTHS WOULD BE REQUIRED TO REGENERATE HUMANITY'S ANNUAL DEMAND ON NATURE

World average Ecological Footprint per person was 2.7 gha in 2008





Gha per capita

- < 1
- 1 - 2
- 2 - 3
- 3 - 5
- 5 - 8
- Insufficient data

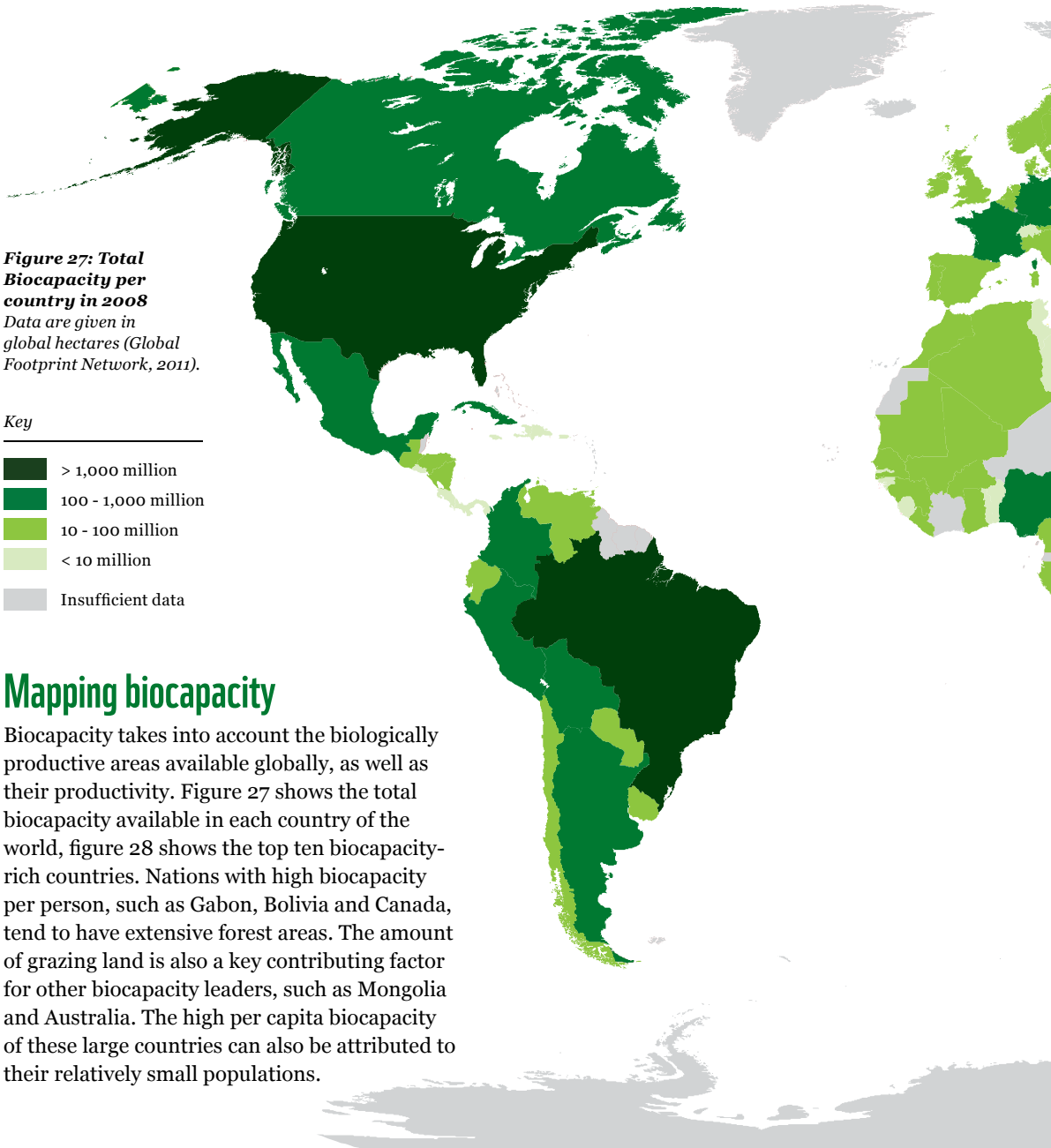


Figure 27: Total Biocapacity per country in 2008
Data are given in global hectares (Global Footprint Network, 2011).

Mapping biocapacity

Biocapacity takes into account the biologically productive areas available globally, as well as their productivity. Figure 27 shows the total biocapacity available in each country of the world, figure 28 shows the top ten biocapacity-rich countries. Nations with high biocapacity per person, such as Gabon, Bolivia and Canada, tend to have extensive forest areas. The amount of grazing land is also a key contributing factor for other biocapacity leaders, such as Mongolia and Australia. The high per capita biocapacity of these large countries can also be attributed to their relatively small populations.

Different countries, different biocapacities

Some countries with high biocapacity do not have a large national footprint. Bolivia, for example, has a per capita footprint of 2.6 gha and a per capita biocapacity of 18 gha. However it is worth noting that this biocapacity may well be being exported and utilized by other nations. For example, the Ecological Footprint of a citizen of United Arab Emirates (UAE) is 8.4 gha, but within the country there is only 0.6 gha of biocapacity available per person. The residents of UAE are therefore dependent on the resources of other nations to meet their needs. As resources are becoming more constrained, competition is growing; the disparity between resource-rich and resource-poor nations is highly likely to have strong geo-political implications in the future.

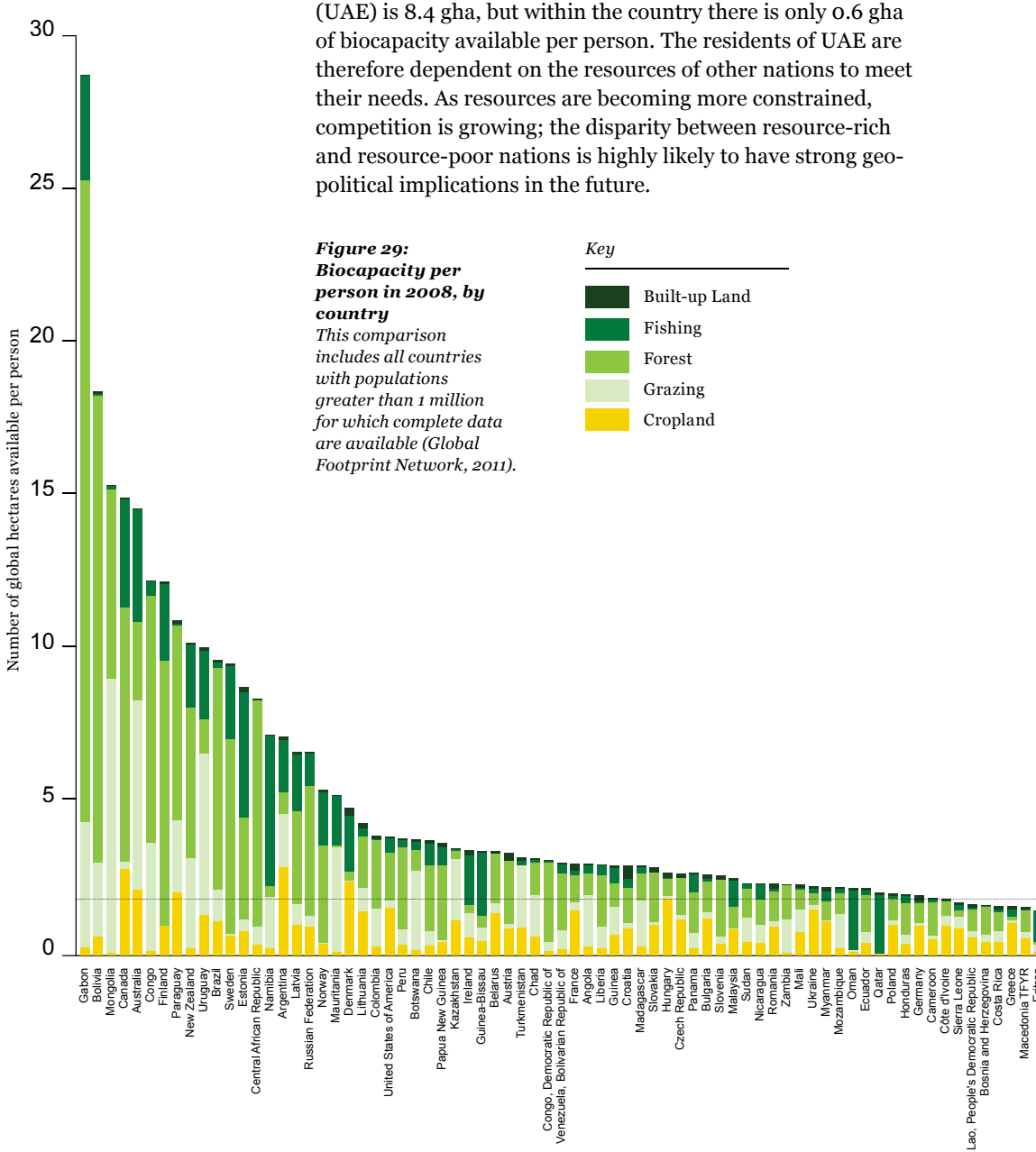
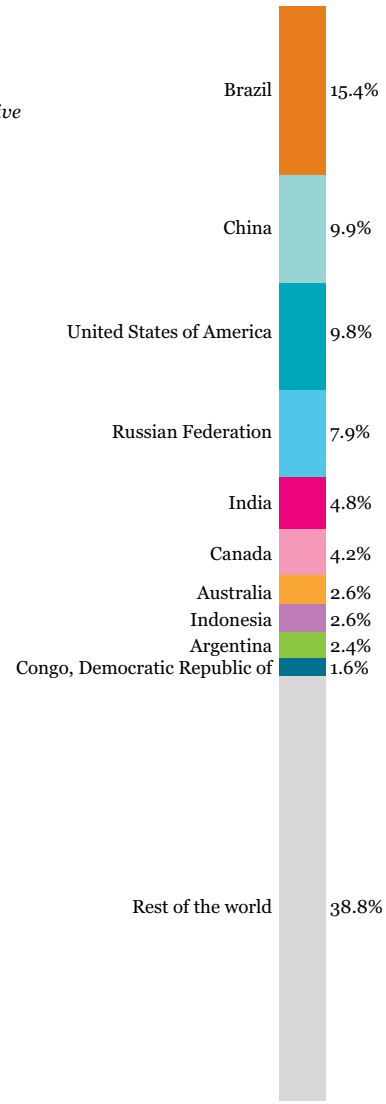
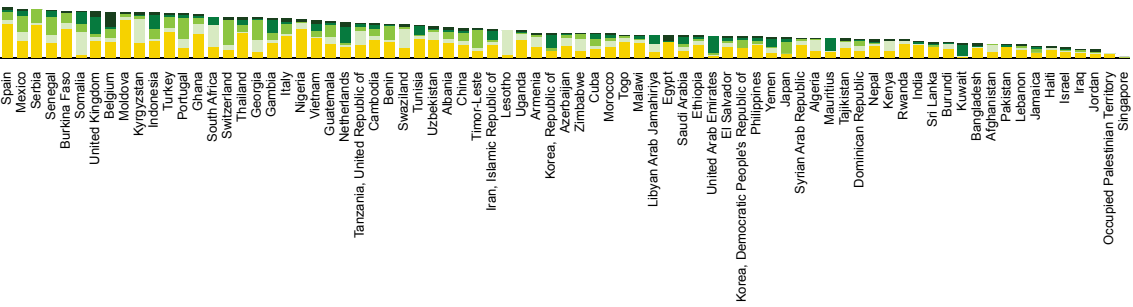


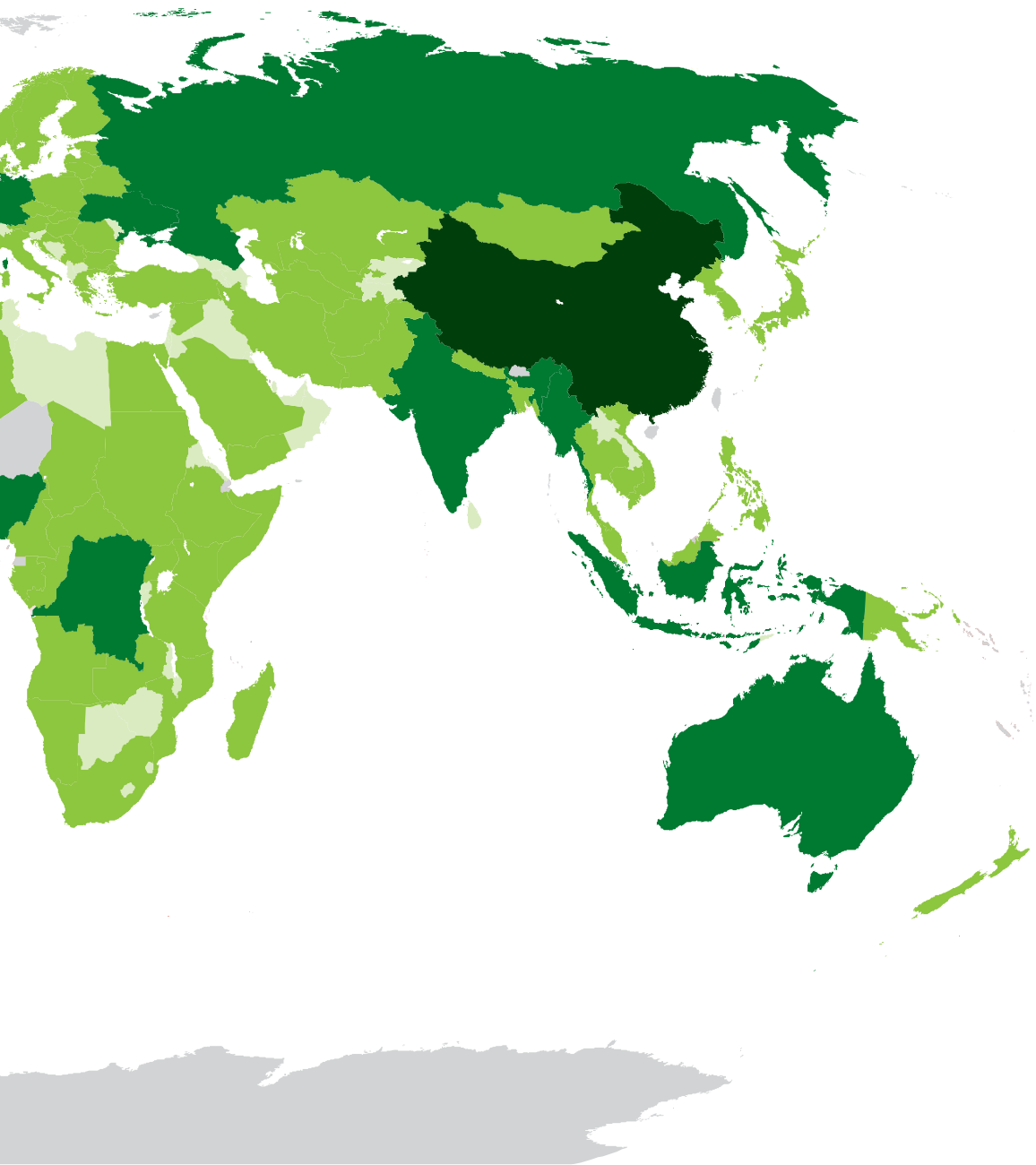
Figure 29: Biocapacity per person in 2008, by country
This comparison includes all countries with populations greater than 1 million for which complete data are available (Global Footprint Network, 2011).

Figure 28: Top 10 national biocapacities in 2008
Ten countries accounted for more than 60% of the Earth's total biocapacity in 2008. This includes five of the six BRIICS countries: Brazil, Russia, India, Indonesia and China (Global Footprint Network, 2011).



World average biocapacity per person was 1.8 gha in 2008





A focus on emerging economies: BRIICS countries

BRIICS ECONOMIES ARE EXPANDING RAPIDLY – THE CHALLENGE IS TO DO THIS SUSTAINABLY

The rapid economic expansion of Brazil, Russia, India, Indonesia, China and South Africa – the so-called BRIICS group – merit special attention when looking at the Ecological Footprint and the pressure on biocapacity. High population growth in the BRIICS group along with increasing average consumption per person are contributing to an economic transformation. As a result, the BRIICS economies are expanding more rapidly than those of high-income countries. This growth will bring important social benefits to these countries. The challenge, however, is to do this sustainably.

Figure 30 highlights BRIICS countries' consumption trends by showing the Ecological Footprint associated with the direct expenditure of an average individual or resident (also known as "household consumption") broken down into five categories: food, housing, transport, goods and services. (More information about the Consumption Land Use Matrix – or CLUM – models on which these figures are based can be found in the glossary at the back of this report). Citizens of lower-income BRIICS countries have a far larger proportion of their footprint associated with direct expenditure on food than they do on other categories. In Brazil, India and Indonesia, food accounts for more than 50 per cent of the total household footprint. The remaining portion is split almost equally among goods, transportation and housing. As the BRIICS nations become wealthier, and the average Ecological Footprint increases, consumption patterns increasingly mirror high-income countries. South Africa and China, for example, are moving toward a more equal split between each of the consumption categories, indicative of industrialisation and increased income.

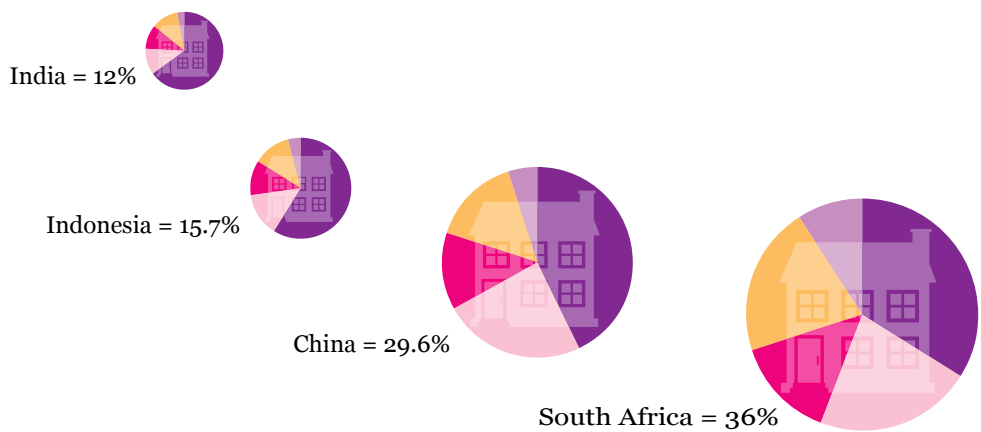
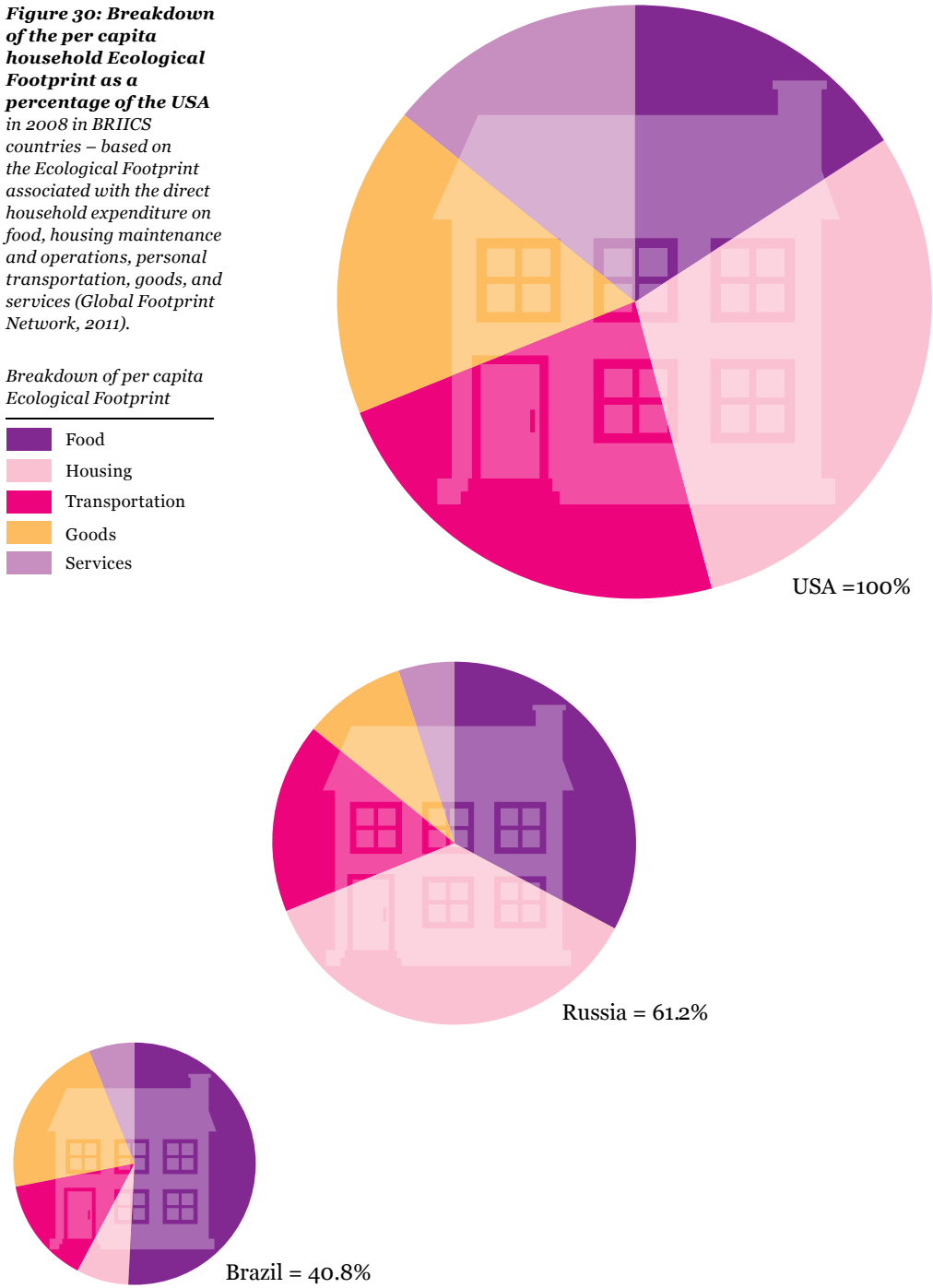


Figure 30: Breakdown of the per capita household Ecological Footprint as a percentage of the USA *in 2008 in BRIICS countries – based on the Ecological Footprint associated with the direct household expenditure on food, housing maintenance and operations, personal transportation, goods, and services (Global Footprint Network, 2011).*



PROJECTING THE ECOLOGICAL FOOTPRINT TO 2050

According to the United Nations Food and Agriculture Organization (FAO), demand for food, feed and fibres could grow by 70 per cent by 2050 (FAO, 2009). This has considerable implications for land use and natural ecosystems, and also for the size of humanity's Ecological Footprint.

The Ecological Footprint Scenario Calculator uses footprint data between 1961 and 2008 as a baseline, and projects the size of each component of the footprint in 2015, 2030 and 2050 (Moore *et al.*, 2012; WBCSD, 2010). The calculator uses data and projections from other scenario models for population, land use, land productivity, energy use, diet and climate change, and translates them into corresponding trends in Ecological Footprints and biocapacity. The datasets and parameters used in the "business as usual" scenario are included in the figure legend below.

The "business as usual" scenario for humanity's Ecological Footprint shows more and more pressure being placed on the planet. By 2050 humanity would require an equivalent of 2.9 planets to support the "business as usual" assumptions (Figure 54).

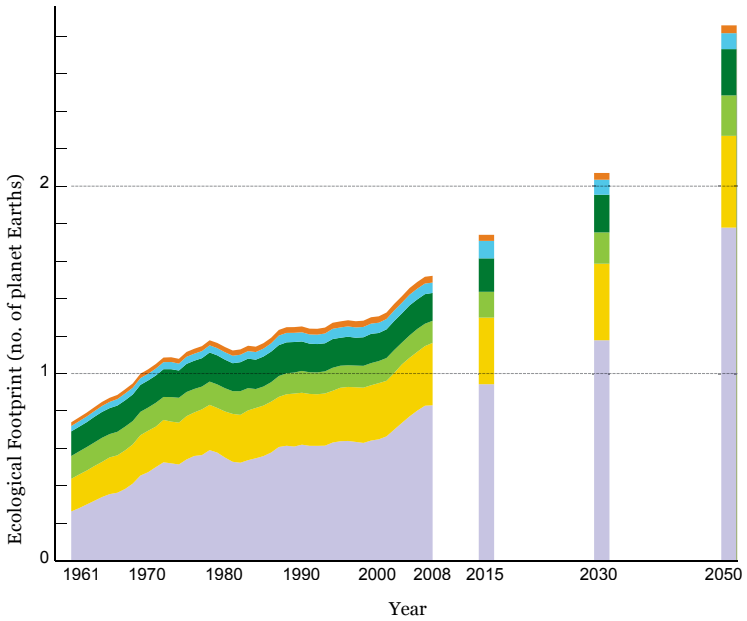


Figure 54: "Business as usual" scenario of the Ecological Footprint from 2009 to 2050
The Ecological Footprint scenario calculator uses trends from 1961 to 2008 to create a possible pathway up to 2050.

ANNEX 2: ECOLOGICAL FOOTPRINT: FREQUENTLY ASKED QUESTIONS

How is the Ecological Footprint calculated?

The Ecological Footprint measures the amount of biologically productive land and water area required to produce the resources an individual, population or activity consumes and to absorb the waste it generates, given prevailing technology and resource management. This area is expressed in global hectares (hectares with world-average biological productivity). Footprint calculations use yield factors to normalize countries' biological productivity to world averages (e.g., comparing tonnes of wheat per UK hectare versus per world average hectare) and equivalence factors to take into account differences in world average productivity among land types (e.g., world average forest versus world average cropland).

Footprint and biocapacity results for countries are calculated annually by the Global Footprint Network. Collaborations with national governments are invited, and serve to improve the data and methodology used for the National Footprint Accounts. To date, Switzerland has completed a review, and Belgium, Ecuador, Finland, Germany, Ireland, Japan and the UAE have partially reviewed or are reviewing their accounts. The continuing methodological development of the National Footprint Accounts is overseen by a formal review committee. A detailed methods paper and copies of sample calculation sheets can be obtained from www.footprintnetwork.org

Footprint analyses can be conducted at any scale. There is growing recognition of the need to standardize sub-national Footprint applications in order to increase comparability across studies and longitudinally. Methods and approaches for calculating the Footprint of municipalities, organizations and products are currently being aligned through a global Ecological Footprint standards initiative. For more information on Ecological Footprint standards see www.footprintstandards.org

What is included in the Ecological Footprint? What is excluded?

To avoid exaggerating human demand on nature, the Ecological Footprint includes only those aspects of resource consumption and waste production for which the Earth has regenerative capacity, and where data exists that allow this demand to be expressed in terms of productive area. For example, toxic releases are not accounted for in Ecological Footprint accounts. Nor are freshwater withdrawals, although the energy used to pump or treat water is included.

Ecological Footprint accounts provide snapshots of past resource demand and availability. They do not predict the future. Thus, while the Footprint does not estimate future losses caused by current degradation of ecosystems, if this degradation persists it may be reflected in future accounts as a reduction in biocapacity.

Footprint accounts also do not indicate the intensity with which a biologically productive area is being used. Being a biophysical measure, it also does not evaluate the essential social and economic dimensions of sustainability.

How is international trade taken into account?

The National Footprint Accounts calculate the Ecological Footprint associated with each country's total consumption by summing the Footprint of its imports and its production, and subtracting the Footprint of its exports. This means that the resource use and emissions associated with producing a car that is manufactured in Japan, but sold and used in India, will contribute to India's rather than Japan's consumption Footprint.

National consumption Footprints can be distorted when the resources used and waste generated in making products for export are not fully documented for every country. Inaccuracies in reported trade can significantly affect the Footprint estimates for countries where trade flows are large relative to total consumption. However, this does not affect the total global Footprint.

How does the Ecological Footprint account for the use of fossil fuels?

Fossil fuels such as coal, oil and natural gas are extracted from the Earth's crust and are not renewable in ecological time spans. When these fuels burn, carbon dioxide (CO_2) is emitted into the atmosphere. There are two ways in which this CO_2 can be stored: human technological sequestration of these emissions, such as deep-well injection, or natural sequestration. Natural sequestration occurs when ecosystems absorb CO_2 and store it either in standing biomass, such as trees, or in soil.

The Carbon footprint is calculated by estimating how much natural sequestration would be necessary to maintain a constant concentration of CO_2 in the atmosphere. After subtracting the amount of CO_2 absorbed by the oceans, Ecological Footprint accounts calculate the area required to absorb and retain the remaining carbon based on the average sequestration rate of the world's forests. CO_2 sequestered by artificial means would also be subtracted from the Ecological Footprint total, but at present this quantity is negligible. In 2008, 1 global hectare could absorb the CO_2 released by burning approximately 1,450 litres of gasoline.

Expressing CO_2 emissions in terms of an equivalent bioproductive area does not imply that carbon sequestration in biomass is the key to resolving global climate change. On the contrary, it shows that the biosphere has insufficient capacity to offset current rates of anthropogenic CO_2 emissions. The contribution of CO_2 emissions to the total Ecological Footprint is based on an estimate of world average forest yields. This sequestration capacity may change over time. As forests mature, their CO_2 sequestration rates tend to decline. If these forests are degraded or cleared, they may become net emitters of CO_2.

Carbon emissions from some sources other than fossil fuel combustion are incorporated in the National Footprint Accounts at the global level. These include fugitive emissions from the flaring of gas in oil and natural gas production, carbon released by chemical reactions in cement production and emissions from tropical forest fires.

How does the Ecological Footprint account for carbon emissions absorbed by the oceans versus uptake by forests?

The National Footprint Accounts calculate the Carbon Footprint by considering sequestration from the world's oceans and forests. Annual ocean uptake values are taken from Khatiwala *et al.*, 2009 (ref: Khatiwala, S. *et al.,* 2009. Reconstruction of the history of anthropogenic CO_2 concentrations in the ocean. *Nature* 462, 346-350) and used with the anthropogenic carbon emissions taken from CDIAC (CDIAC, 2011). There is a relatively constant percentage uptake for oceans, varying between 28 per cent and 35 per cent over the period 1961-2008. The remaining CO_2 requires land based sequestration. Due to the limited availability of large-scale datasets, the calculation currently assumes the world average sequestration rate for uptake of carbon dioxide into forests. Therefore the Carbon Footprint is a measure of the area of world average forest land that is necessary to sequester the carbon dioxide emissions that are not absorbed into the world's oceans.

Does the Ecological Footprint take into account other species?

The Ecological Footprint compares human demand on biodiversity with the natural world's capacity to meet this demand. It thus serves as an indicator of human pressure on local and global ecosystems. In 2008, humanity's demand exceeded the biosphere's regeneration rate by more than 50 per cent. This overshoot may result in depletion of ecosystems and fill-up of waste sinks. This ecosystem stress may negatively impact biodiversity. However, the Footprint does not measure this latter impact directly, nor does it specify how much overshoot must be reduced if negative impacts are to be avoided.

Does the Ecological Footprint say what is a "fair" or "equitable" use of resources?

The Footprint documents what has happened in the past. It can quantitatively describe the ecological resources used by an individual or a population, but it does not prescribe what they should be using. Resource allocation is a policy issue, based on societal beliefs about what is or is not equitable. While Footprint accounting can determine the average biocapacity that is available per person, it does not stipulate how this biocapacity should be allocated among individuals or countries. However, it does provide a context for such discussions.

How relevant is the Ecological Footprint if the supply of renewable resources can be increased and advances in technology can slow the depletion of non-renewable resources?

The Ecological Footprint measures the current state of resource use and waste generation. It asks: In a given year, did human demands on ecosystems exceed the ability of ecosystems to meet these demands? Footprint analysis reflects both increases in the productivity of renewable resources and technological innovation (for example, if the paper industry doubles the overall efficiency of paper production, the footprint per tonne of paper will halve). Ecological Footprint Accounts capture these changes once they occur and can determine the extent to which these innovations have succeeded in bringing human demand within the capacity of the planet's ecosystems. If there is a sufficient increase in ecological supply and a reduction in human demand due to technological advances or other factors, Footprint Accounts will show this as the elimination of global overshoot.

For additional information about current Ecological Footprint methodology, data sources, assumptions and results, please visit: www.footprintnetwork.org/atlas

For more information on the Ecological Footprint at a global level, please see: (Butchart *et al.*, 2010; Global Footprint Network, 2010; GTZ, 2010; Kitzes *et al.*, 2009; Kitzes *et al.*, 2008) at a regional and national level, please see (Ewing *et al.*, 2009; Global Footprint Network, 2008; WWF, 2007; 2008a) and for further information on the methodology used to calculate the Ecological Footprint, please see (Ewing B. *et al.*, 2009; Galli *et al.*, 2007).

Table 2: Ecological Footprint data tables. Please note: World population is inclusive of countries not included in the Table. Table includes Footprint data for countries with populations greater than 1 million.

Country/region	Population (millions)	Cropland	Grazing land	Forest land	Fishing ground	Carbon	Built up land	Total Ecological Footprint	Cropland	Grazing land	Forest land	Fishing ground	Built up land	Total biocapacity
		Ecological Footprint 2008 (global hectares per person)							Biocapacity 2008 (global hectares per person)					
World	6,739.6	0.59	0.21	0.26	0.10	1.47	0.06	2.70	0.57	0.23	0.76	0.16	0.06	1.78
High-income countries	1,037.0	1.03	0.31	0.58	0.19	3.38	0.11	5.60	0.98	0.28	1.17	0.51	0.11	3.05
Middle-income countries	4,394.1	0.53	0.17	0.19	0.10	0.85	0.07	1.92	0.49	0.21	0.78	0.16	0.07	1.72
Low-income countries	1,297.5	0.47	0.12	0.23	0.06	0.18	0.07	1.14	0.46	0.21	0.31	0.09	0.07	1.14
Africa	975.5	0.51	0.23	0.29	0.07	0.29	0.06	1.45	0.46	0.41	0.48	0.11	0.06	1.52
Algeria	34.4	0.51	0.35	0.13	0.02	0.62	0.02	1.65	0.19	0.31	0.02	0.01	0.02	0.56
Angola	18.0	0.36	0.14	0.13	0.11	0.09	0.06	0.89	0.29	1.66	0.72	0.25	0.06	2.98
Benin	8.4	0.55	0.06	0.31	0.10	0.30	0.04	1.36	0.46	0.04	0.41	0.03	0.04	0.98
Botswana	2.0	0.42	1.22	0.18	0.01	0.93	0.07	2.84	0.17	2.58	0.65	0.28	0.07	3.76
Burkina Faso	15.5	0.84	0.19	0.35	0.01	0.06	0.08	1.53	0.83	0.18	0.27	0.00	0.08	1.37
Burundi	7.9	0.26	0.07	0.45	0.01	0.02	0.04	0.85	0.24	0.15	0.01	0.01	0.04	0.45
Cameroon	18.8	0.48	0.12	0.27	0.06	0.11	0.05	1.09	0.52	0.11	1.08	0.11	0.05	1.87
Central African Republic	4.2	0.37	0.62	0.30	0.01	0.03	0.04	1.36	0.32	0.62	7.38	0.00	0.04	8.35
Chad	10.7	0.64	0.87	0.29	0.01	0.01	0.08	1.89	0.60	1.36	1.05	0.09	0.08	3.17
Congo	3.8	0.26	0.11	0.48	0.07	0.12	0.03	1.08	0.14	3.51	8.07	0.44	0.03	12.20
Congo, Democratic Republic of	62.5	0.15	0.02	0.50	0.01	0.03	0.05	0.76	0.13	0.28	2.60	0.05	0.05	3.10
Egypt	78.3	0.66	0.07	0.16	0.03	0.96	0.18	2.06	0.45	0.00	0.00	0.02	0.18	0.65
Eritrea	4.9	0.16	0.23	0.20	0.01	0.03	0.03	0.66	0.09	0.23	0.10	1.01	0.03	1.47
Ethiopia	79.4	0.41	0.13	0.50	0.00	0.04	0.06	1.13	0.36	0.13	0.05	0.05	0.06	0.65
Gabon	1.5	0.48	0.22	0.96	0.12	0.00	0.03	1.81	0.24	4.11	20.94	3.41	0.03	28.72
Gambia	1.6	0.72	0.15	0.21	0.09	0.20	0.05	1.41	0.43	0.07	0.21	0.39	0.05	1.15
Ghana	23.3	0.58	0.10	0.61	0.17	0.21	0.07	1.74	0.70	0.28	0.17	0.06	0.07	1.28
Guinea	9.6	0.65	0.33	0.51	0.04	0.10	0.08	1.72	0.65	0.91	0.76	0.52	0.08	2.93
Guinea-Bissau	1.5	0.35	0.42	0.19	0.03	0.07	0.05	1.10	0.47	0.41	0.39	2.08	0.05	3.40

Country/region	Population (millions)	Cropland	Grazing land	Forest land	Fishing ground	Carbon	Built up land	Total Ecological Footprint	Cropland	Grazing land	Forest land	Fishing ground	Built up land	Total biocapacity
		Ecological Footprint 2008 (global hectares per person)							Biocapacity 2008 (global hectares per person)					
Kenya	38.5	0.20	0.27	0.28	0.06	0.11	0.03	0.95	0.19	0.27	0.02	0.02	0.03	0.53
Lesotho	2.1	0.19	0.49	0.37	0.00	0.01	0.01	1.07	0.08	0.72	0.00	0.00	0.01	0.81
Liberia	3.7	0.31	0.03	0.75	0.02	0.12	0.05	1.28	0.21	0.71	1.66	0.33	0.05	2.95
Libyan Arab Jamahiriya	6.2	0.65	0.54	0.12	0.04	1.82	0.02	3.19	0.15	0.23	0.02	0.24	0.02	0.66
Madagascar	19.5	0.30	0.39	0.27	0.08	0.06	0.06	1.16	0.27	1.50	0.89	0.19	0.06	2.92
Malawi	14.0	0.46	0.04	0.17	0.01	0.05	0.05	0.78	0.44	0.09	0.03	0.06	0.05	0.67
Mali	14.5	0.74	0.75	0.16	0.03	0.10	0.10	1.86	0.76	0.73	0.64	0.05	0.10	2.29
Mauritania	3.3	0.43	1.79	0.20	0.10	0.30	0.05	2.86	0.12	3.40	0.06	1.60	0.05	5.21
Mauritius	1.3	0.60	0.54	0.12	1.88	1.41	0.00	4.55	0.17	0.00	0.01	0.38	0.00	0.56
Morocco	31.3	0.60	0.21	0.06	0.05	0.37	0.03	1.32	0.30	0.18	0.09	0.10	0.03	0.70
Mozambique	22.3	0.26	0.04	0.32	0.03	0.08	0.05	0.78	0.22	1.09	0.68	0.16	0.05	2.21
Namibia	2.2	0.43	1.05	0.14	0.00	0.38	0.03	2.03	0.21	1.67	0.37	4.90	0.03	7.18
Nigeria	150.7	0.81	0.10	0.21	0.10	0.15	0.07	1.44	0.84	0.17	0.02	0.02	0.07	1.12
Rwanda	10.0	0.40	0.06	0.15	0.01	0.05	0.04	0.71	0.40	0.06	0.01	0.01	0.04	0.52
Senegal	11.8	0.69	0.27	0.23	0.08	0.21	0.04	1.53	0.43	0.21	0.53	0.19	0.04	1.40
Sierra Leone	5.6	0.32	0.15	0.39	0.13	0.06	0.09	1.13	0.86	0.38	0.19	0.19	0.09	1.71
Somalia	8.9	0.18	0.66	0.50	0.02	0.04	0.04	1.44	0.08	0.65	0.26	0.33	0.04	1.36
South Africa	49.3	0.42	0.19	0.31	0.08	1.57	0.03	2.59	0.32	0.62	0.02	0.22	0.03	1.21
Sudan	41.4	0.47	0.82	0.21	0.00	0.09	0.03	1.63	0.42	0.81	0.94	0.14	0.03	2.34
Swaziland	1.2	0.40	0.53	0.11	0.00	0.33	0.07	1.45	0.29	0.55	0.05	0.01	0.07	0.97
Tanzania, United Republic of	42.3	0.36	0.36	0.24	0.09	0.08	0.06	1.19	0.37	0.39	0.13	0.07	0.06	1.02
Togo	5.8	0.41	0.11	0.31	0.05	0.13	0.03	1.03	0.44	0.14	0.04	0.02	0.03	0.67
Tunisia	10.2	0.65	0.12	0.21	0.10	0.66	0.03	1.76	0.53	0.09	0.05	0.25	0.03	0.96
Uganda	31.3	0.53	0.15	0.54	0.23	0.06	0.05	1.57	0.52	0.17	0.02	0.05	0.05	0.81
Zambia	12.4	0.18	0.18	0.35	0.01	0.10	0.02	0.84	0.07	1.08	1.11	0.03	0.02	2.31
Zimbabwe	12.5	0.24	0.35	0.30	0.00	0.25	0.02	1.17	0.18	0.35	0.14	0.01	0.02	0.72
Middle East/ Central Asia	383.7	0.60	0.20	0.12	0.04	1.44	0.06	2.47	0.39	0.22	0.12	0.13	0.06	0.92
Afghanistan	29.8	0.24	0.20	0.06	0.00	0.01	0.02	0.54	0.16	0.20	0.02	0.00	0.02	0.40
Armenia	3.1	0.58	0.39	0.08	0.01	0.61	0.06	1.73	0.31	0.27	0.07	0.02	0.06	0.72
Azerbaijan	8.9	0.59	0.26	0.10	0.01	0.96	0.04	1.97	0.34	0.21	0.10	0.02	0.04	0.72

Country/region	Population (millions)	Cropland	Grazing land	Forest land	Fishing ground	Carbon	Built up land	Total Ecological Footprint	Cropland	Grazing land	Forest land	Fishing ground	Built up land	Total biocapacity
		Ecological Footprint 2008 (global hectares per person)							Biocapacity 2008 (global hectares per person)					
Georgia	4.4	0.44	0.30	0.11	0.07	0.48	0.04	1.43	0.15	0.36	0.57	0.05	0.04	1.17
Iran, Islamic Republic of	72.3	0.55	0.13	0.05	0.10	1.77	0.06	2.66	0.36	0.08	0.07	0.28	0.06	0.84
Iraq	29.8	0.33	0.09	0.01	0.00	0.96	0.02	1.42	0.14	0.02	0.05	0.01	0.02	0.24
Israel	7.1	0.86	0.36	0.33	0.01	2.33	0.06	3.96	0.17	0.01	0.03	0.01	0.06	0.29
Jordan	5.8	0.66	0.41	0.18	0.05	0.74	0.09	2.13	0.09	0.02	0.03	0.00	0.09	0.24
Kazakhstan	15.7	0.76	0.25	0.12	0.02	2.95	0.04	4.14	1.13	2.01	0.24	0.06	0.04	3.48
Kuwait	2.5	0.80	0.64	0.23	0.29	7.70	0.07	9.72	0.01	0.01	0.00	0.32	0.07	0.43
Kyrgyzstan	5.2	0.55	0.16	0.08	0.01	0.41	0.07	1.29	0.43	0.68	0.09	0.06	0.07	1.33
Lebanon	4.2	0.66	0.48	0.28	0.05	1.33	0.05	2.85	0.22	0.05	0.06	0.01	0.05	0.39
Occupied Palestinian Territory	3.8	0.33	0.05	0.00	0.00	0.09	0.00	0.46	0.11	0.02	0.00	0.00	0.00	0.13
Oman	2.6	0.74	1.04	0.16	0.37	3.27	0.11	5.69	0.09	0.07	0.00	1.92	0.11	2.20
Qatar	1.4	0.91	1.12	0.17	0.46	8.91	0.11	11.68	0.03	0.00	0.00	1.91	0.11	2.05
Saudi Arabia	26.2	0.80	0.36	0.26	0.06	2.44	0.07	3.99	0.18	0.13	0.07	0.21	0.07	0.65
Syrian Arab Republic	19.7	0.48	0.16	0.05	0.01	0.71	0.04	1.45	0.37	0.11	0.04	0.00	0.04	0.57
Tajikistan	6.7	0.42	0.17	0.02	0.00	0.21	0.08	0.90	0.29	0.17	0.01	0.01	0.08	0.56
Turkey	70.9	0.92	0.08	0.28	0.03	1.17	0.07	2.55	0.74	0.13	0.32	0.05	0.07	1.31
Turkmenistan	4.9	0.93	0.54	0.01	0.01	2.37	0.13	3.98	0.89	2.01	0.02	0.14	0.13	3.19
United Arab Emirates	8.1	0.77	1.06	0.37	0.25	5.97	0.03	8.44	0.05	0.00	0.07	0.49	0.03	0.64
Uzbekistan	26.8	0.54	0.09	0.03	0.00	1.09	0.07	1.82	0.53	0.21	0.06	0.03	0.07	0.91
Yemen	22.6	0.29	0.18	0.03	0.00	0.32	0.05	0.87	0.13	0.13	0.04	0.25	0.05	0.60
Asia-Pacific	3,729.6	0.46	0.07	0.15	0.11	0.76	0.07	1.63	0.40	0.09	0.18	0.12	0.07	0.86
Australia	21.5	1.61	1.11	1.16	0.10	2.68	0.03	6.68	2.14	6.16	2.55	3.69	0.03	14.57
Bangladesh	145.5	0.33	0.01	0.08	0.02	0.15	0.07	0.66	0.28	0.00	0.00	0.06	0.07	0.42
Cambodia	13.8	0.52	0.04	0.25	0.07	0.27	0.05	1.19	0.51	0.11	0.21	0.13	0.05	1.01
China	1,358.8	0.52	0.13	0.14	0.10	1.15	0.09	2.13	0.38	0.11	0.22	0.07	0.09	0.87
India	1,190.9	0.37	0.00	0.12	0.02	0.31	0.05	0.87	0.38	0.00	0.02	0.03	0.05	0.48
Indonesia	235.0	0.44	0.04	0.16	0.20	0.23	0.07	1.13	0.47	0.06	0.32	0.41	0.07	1.32
Japan	126.5	0.50	0.15	0.24	0.39	2.83	0.06	4.17	0.11	0.00	0.34	0.07	0.06	0.59
Korea, Democratic People's Republic of	24.1	0.33	0.01	0.14	0.02	0.75	0.06	1.31	0.27	0.00	0.23	0.07	0.06	0.62

Country/region	Population (millions)	Cropland	Grazing land	Forest land	Fishing ground	Carbon	Built up land	Total Ecological Footprint	Cropland	Grazing land	Forest land	Fishing ground	Built up land	Total biocapacity
		Ecological Footprint 2008 (global hectares per person)							Biocapacity 2008 (global hectares per person)					
Korea, Republic of	47.7	0.73	0.18	0.23	0.47	2.93	0.07	4.62	0.18	0.00	0.09	0.38	0.07	0.72
Lao People's Democratic Republic	6.0	0.56	0.14	0.39	0.01	0.08	0.13	1.30	0.57	0.18	0.73	0.04	0.13	1.65
Malaysia	27.5	0.61	0.26	0.47	0.46	2.02	0.08	3.90	0.85	0.01	0.70	0.86	0.08	2.50
Mongolia	2.7	0.28	3.97	0.13	0.00	1.13	0.01	5.53	0.08	8.93	6.16	0.15	0.01	15.33
Myanmar	47.3	1.09	0.01	0.34	0.28	0.08	0.14	1.94	1.11	0.01	0.64	0.32	0.14	2.22
Nepal	28.9	0.36	0.05	0.20	0.00	0.07	0.09	0.76	0.34	0.04	0.06	0.00	0.09	0.53
New Zealand	4.3	0.72	0.00	1.21	0.75	1.56	0.06	4.31	0.22	2.91	4.91	2.09	0.06	10.19
Pakistan	167.4	0.35	0.01	0.09	0.01	0.24	0.05	0.75	0.30	0.00	0.01	0.04	0.05	0.40
Papua New Guinea	6.5	0.31	0.18	0.38	0.81	0.84	0.16	2.68	0.43	0.04	2.45	0.59	0.16	3.67
Philippines	90.2	0.45	0.07	0.09	0.32	0.00	0.06	0.98	0.37	0.02	0.10	0.07	0.06	0.62
Singapore	4.8	0.52	0.92	0.31	0.15	4.20	0.00	6.10	0.00	0.00	0.00	0.02	0.00	0.02
Sri Lanka	20.5	0.36	0.07	0.15	0.28	0.29	0.06	1.21	0.30	0.02	0.04	0.05	0.06	0.46
Thailand	68.3	0.57	0.05	0.16	0.67	0.89	0.07	2.41	0.73	0.01	0.22	0.14	0.07	1.17
Timor-Leste	1.1	0.24	0.07	0.05	0.02	0.05	0.04	0.47	0.20	0.06	0.56	0.00	0.04	0.86
Vietnam	86.0	0.52	0.02	0.18	0.12	0.43	0.12	1.39	0.59	0.01	0.16	0.22	0.12	1.09
Latin America	576.8	0.64	0.67	0.39	0.12	0.80	0.08	2.70	0.80	0.80	3.60	0.31	0.08	5.60
Argentina	39.7	0.80	0.62	0.28	0.13	0.77	0.12	2.71	2.88	1.72	0.71	1.69	0.12	7.12
Bolivia	9.6	0.44	1.58	0.17	0.01	0.35	0.06	2.61	0.59	2.41	15.26	0.06	0.06	18.39
Brazil	191.5	0.80	0.95	0.55	0.05	0.48	0.10	2.93	1.09	1.03	7.25	0.16	0.10	9.63
Chile	16.8	0.55	0.33	0.91	0.62	0.73	0.09	3.24	0.32	0.47	2.12	0.73	0.09	3.74
Colombia	45.0	0.38	0.72	0.14	0.03	0.43	0.11	1.80	0.29	1.22	2.23	0.04	0.11	3.89
Costa Rica	4.5	0.37	0.24	0.81	0.05	0.93	0.11	2.52	0.43	0.33	0.62	0.10	0.11	1.60
Cuba	11.3	0.71	0.22	0.11	0.06	0.79	0.02	1.90	0.26	0.08	0.21	0.14	0.02	0.71
Dominican Republic	9.7	0.39	0.14	0.12	0.08	0.65	0.04	1.42	0.20	0.12	0.17	0.01	0.04	0.54
Ecuador	14.1	0.36	0.34	0.23	0.75	0.62	0.07	2.37	0.39	0.33	1.21	0.17	0.07	2.18
El Salvador	6.1	0.53	0.31	0.41	0.14	0.57	0.04	1.99	0.31	0.11	0.05	0.11	0.04	0.62
Guatemala	13.7	0.42	0.23	0.56	0.04	0.47	0.06	1.78	0.39	0.19	0.38	0.04	0.06	1.07
Haiti	9.7	0.29	0.06	0.10	0.02	0.09	0.03	0.60	0.22	0.03	0.01	0.01	0.03	0.31
Honduras	7.3	0.29	0.33	0.55	0.03	0.48	0.06	1.73	0.37	0.29	1.03	0.23	0.06	1.97

Country/region	Population (millions)	Cropland	Grazing land	Forest land	Fishing ground	Carbon	Built up land	Total Ecological Footprint	Cropland	Grazing land	Forest land	Fishing ground	Built up land	Total biocapacity
		Ecological Footprint 2008 (global hectares per person)							Biocapacity 2008 (global hectares per person)					
Jamaica	2.7	0.41	0.30	0.22	0.12	0.63	0.04	1.72	0.14	0.00	0.10	0.05	0.04	0.33
Mexico	110.6	0.74	0.40	0.32	0.09	1.69	0.06	3.30	0.49	0.25	0.49	0.14	0.06	1.42
Nicaragua	5.6	0.36	0.33	0.43	0.07	0.33	0.04	1.56	0.41	0.58	0.80	0.50	0.04	2.33
Panama	3.4	0.45	0.54	0.21	0.78	0.96	0.04	2.97	0.21	0.49	1.33	0.61	0.04	2.67
Paraguay	6.2	0.50	1.06	0.84	0.01	0.48	0.11	2.99	2.05	2.35	6.36	0.06	0.11	10.92
Peru	28.5	0.50	0.50	0.20	0.45	0.30	0.08	2.03	0.35	0.50	2.65	0.24	0.08	3.82
Uruguay	3.3	0.84	2.98	0.37	0.11	0.67	0.11	5.08	1.31	5.25	1.12	2.24	0.11	10.03
Venezuela, Bolivarian Republic of	28.1	0.48	0.88	0.17	0.12	1.32	0.05	3.02	0.20	0.61	1.84	0.30	0.05	3.00
North America	338.4	1.13	0.22	0.85	0.10	4.75	0.07	7.12	1.66	0.26	2.22	0.75	0.07	4.95
Canada	33.3	1.49	0.42	0.74	0.10	3.63	0.05	6.43	2.81	0.23	8.27	3.55	0.05	14.92
United States of America	305.0	1.09	0.19	0.86	0.09	4.87	0.07	7.19	1.53	0.26	1.56	0.44	0.07	3.86
EU	497.1	1.13	0.34	0.53	0.14	2.42	0.16	4.72	0.91	0.13	0.77	0.27	0.16	2.24
Austria	8.3	1.08	0.22	0.62	0.03	3.05	0.28	5.29	0.87	0.15	2.04	0.00	0.28	3.34
Belgium	10.6	1.82	0.95	0.47	0.17	3.26	0.45	7.11	0.46	0.11	0.28	0.05	0.45	1.33
Bulgaria	7.6	0.95	0.21	0.51	0.03	1.68	0.17	3.56	1.19	0.18	1.01	0.09	0.17	2.65
Czech Republic	10.4	1.17	0.19	0.83	0.02	2.89	0.17	5.27	1.17	0.12	1.21	0.00	0.17	2.68
Denmark	5.5	2.77	0.70	1.21	0.78	2.54	0.26	8.25	2.40	0.03	0.27	1.85	0.26	4.81
Estonia	1.3	0.83	0.07	1.60	0.15	1.93	0.15	4.73	0.79	0.36	3.32	4.11	0.15	8.73
Finland	5.3	1.11	0.19	0.40	0.27	4.15	0.10	6.21	0.95	0.00	8.64	2.50	0.10	12.19
France	62.1	1.25	0.39	0.60	0.18	2.24	0.25	4.91	1.47	0.24	0.87	0.16	0.25	2.99
Germany	82.5	1.18	0.26	0.43	0.01	2.49	0.20	4.57	0.95	0.09	0.64	0.08	0.20	1.95
Greece	11.3	1.26	0.53	0.38	0.13	2.53	0.11	4.92	1.03	0.09	0.14	0.22	0.11	1.59
Hungary	10.0	1.29	0.03	0.44	0.01	1.63	0.18	3.59	1.82	0.10	0.58	0.01	0.18	2.68
Ireland	4.4	1.26	0.47	0.53	0.04	3.75	0.16	6.22	0.59	0.79	0.24	1.64	0.16	3.41
Italy	59.9	1.03	0.40	0.46	0.14	2.39	0.10	4.52	0.62	0.06	0.30	0.06	0.10	1.15
Latvia	2.3	0.79	0.10	1.25	0.26	1.48	0.07	3.95	0.98	0.66	3.03	1.88	0.07	6.63
Lithuania	3.4	1.05	0.13	1.02	0.39	1.59	0.20	4.38	1.43	0.75	1.67	0.27	0.20	4.32
Netherlands	16.5	1.30	1.09	0.54	0.10	3.14	0.16	6.34	0.30	0.06	0.08	0.44	0.16	1.03

Country/region	Population (millions)	Cropland	Grazing land	Forest land	Fishing ground	Carbon	Built up land	Total Ecological Footprint	Cropland	Grazing land	Forest land	Fishing ground	Built up land	Total biocapacity
		Ecological Footprint 2008 (global hectares per person)							Biocapacity 2008 (global hectares per person)					
Poland	38.2	0.98	0.04	0.75	0.07	2.01	0.08	3.94	0.99	0.12	0.71	0.10	0.08	2.00
Portugal	10.6	0.96	0.00	0.14	0.95	2.01	0.05	4.12	0.29	0.24	0.64	0.07	0.05	1.29
Romania	21.6	0.92	0.13	0.35	0.04	1.23	0.16	2.84	0.93	0.16	1.00	0.09	0.16	2.33
Slovakia	5.4	1.07	0.25	0.86	0.02	2.28	0.18	4.66	1.00	0.08	1.60	0.00	0.18	2.86
Slovenia	2.0	0.94	0.25	0.61	0.04	3.22	0.15	5.21	0.37	0.23	1.84	0.00	0.15	2.59
Spain	45.1	1.26	0.31	0.35	0.38	2.39	0.06	4.74	0.98	0.11	0.25	0.06	0.06	1.46
Sweden	9.2	0.97	0.47	0.99	0.17	3.00	0.10	5.71	0.64	0.04	6.36	2.38	0.10	9.51
United Kingdom	61.5	0.88	0.45	0.53	0.06	2.65	0.15	4.71	0.49	0.10	0.11	0.50	0.15	1.34
Other Europe	239.3	1.05	0.16	0.40	0.17	2.23	0.05	4.05	1.01	0.27	2.82	0.73	0.05	4.88
Albania	3.2	0.71	0.21	0.09	0.02	0.71	0.06	1.81	0.41	0.13	0.20	0.08	0.06	0.88
Belarus	9.7	1.41	0.02	0.42	0.07	1.98	0.08	3.99	1.38	0.31	1.61	0.02	0.08	3.40
Bosnia and Herzegovina	3.8	0.78	0.22	0.48	0.04	1.16	0.05	2.74	0.41	0.26	0.91	0.00	0.05	1.64
Croatia	4.4	1.02	0.13	0.66	0.07	1.89	0.43	4.19	0.87	0.17	1.14	0.32	0.43	2.92
Macedonia TFYR	2.1	0.79	0.21	0.33	0.07	3.87	0.09	5.36	0.53	0.22	0.70	0.01	0.09	1.55
Moldova	3.6	1.01	0.09	0.11	0.06	0.77	0.06	2.10	1.11	0.07	0.09	0.01	0.06	1.33
Norway	4.8	1.05	0.13	0.66	1.27	1.58	0.08	4.77	0.36	0.02	3.18	1.75	0.08	5.40
Russian Federation	143.2	1.05	0.20	0.47	0.09	2.55	0.04	4.40	0.94	0.34	4.22	1.08	0.04	6.62
Serbia	9.8	0.87	0.06	0.34	0.05	1.25	0.00	2.57	0.95	0.07	0.39	0.00	0.00	1.41
Switzerland	7.6	0.76	0.28	0.55	0.06	3.26	0.10	5.01	0.21	0.15	0.73	0.01	0.10	1.20
Ukraine	46.0	1.14	0.03	0.17	0.11	1.68	0.07	3.19	1.49	0.13	0.41	0.13	0.07	2.23